



## ***Electric Vehicles and Infrastructure in New Hampshire***

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# Clean Cities. Petroleum Reduction's our Mission!



Petroleum reduction in transportation:

- **Alternative fuels** - electricity, CNG, LPG, biodiesel
- **Alternative vehicles**- electric, hybrid-electric, natural gas, propane
- **Other strategies** – idle reduction, fuel efficiency, reduction of miles traveled.

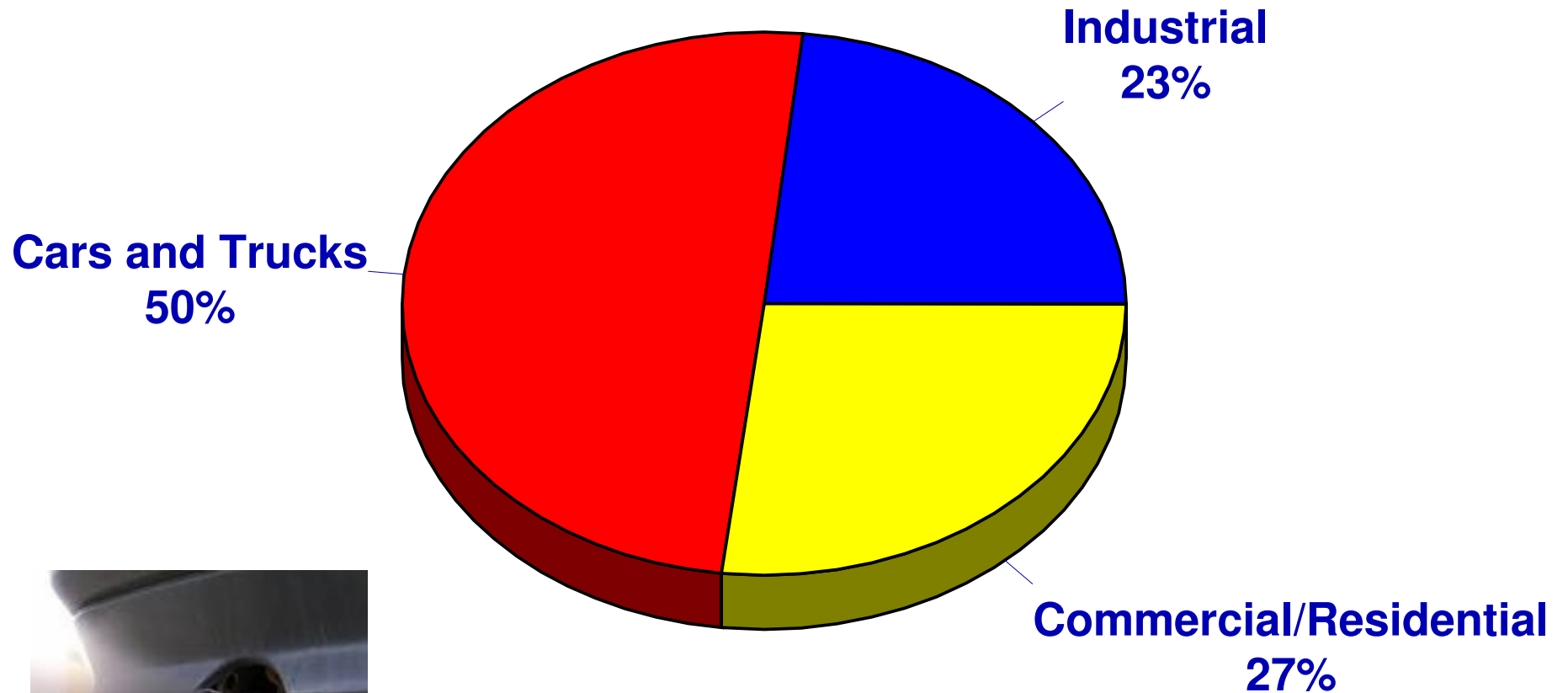
We offer:

- Stakeholder Meetings, events, tours
- Trainings/workshops
- Monthly newsletters
- Notice of funding opportunities  
(when available)

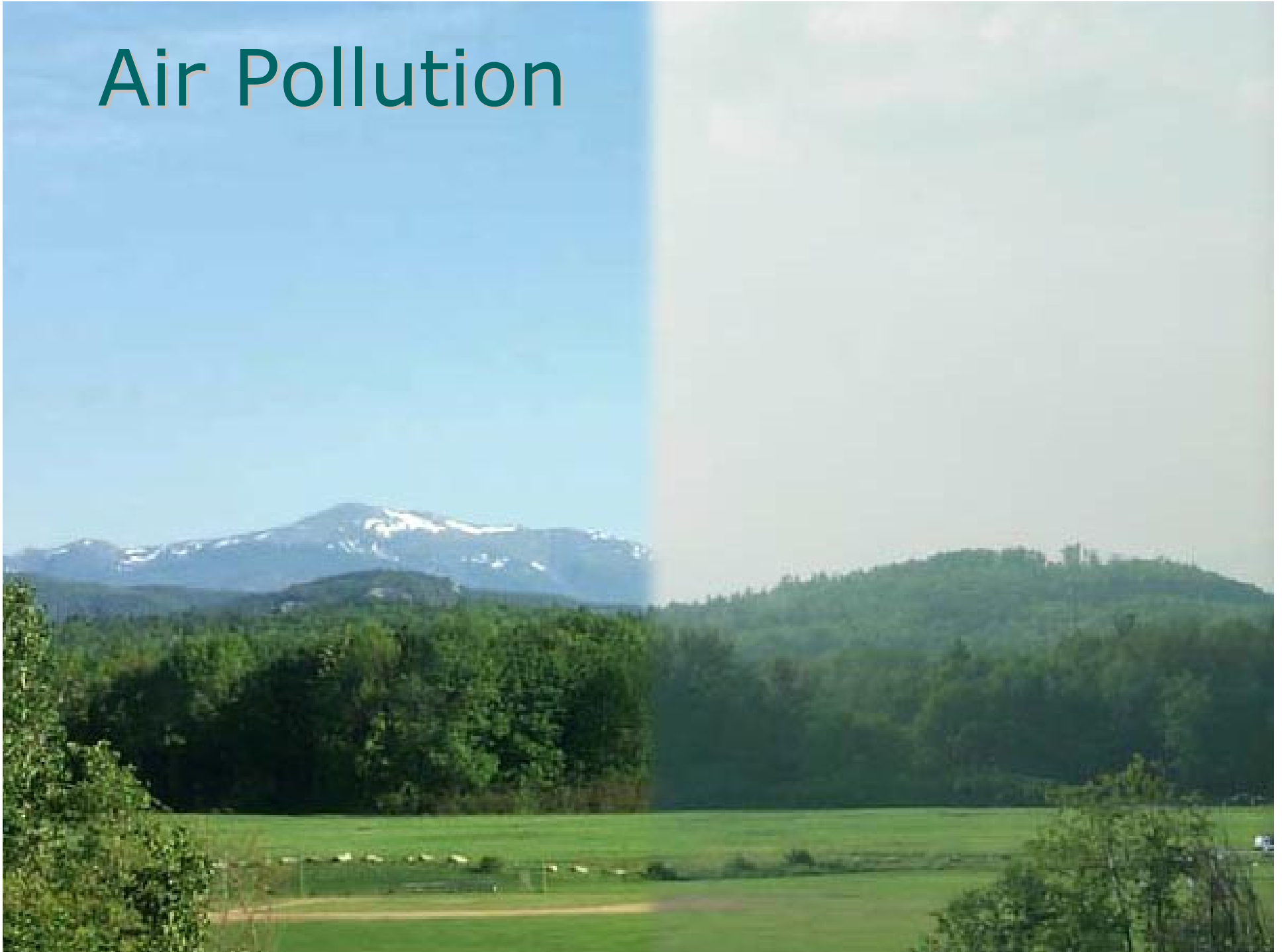


Electric and hybrid-electric first responder training

# Sources of Air Pollution in NH



# Air Pollution





# Electric Vehicles In New Hampshire!



GM Chevy Volt (40 mi. range)



Mitsubishi iMiEV (112 mi. range)



Nissan Leaf (60-115 mi. range)

# More Electrics



**2014 Chevy Spark (82 mi. range)**



**2013 Ford Focus Electric (105 mi. range)**



**2013 Toyota RAV4 (76 mi. range)**

# Electric vs. Hybrid - What's the Difference?



## Pure Electric

Zero emissions  
Limited range  
\$3/charge (125 mi)  
\$7500 tax credit

## Hybrid Electric

Low emissions  
Unlimited range  
\$11/gas (125 mi)  
\$2500 tax credit

## Plug-in Hybrid Electric

Lower emissions  
Unlimited range  
>\$11/gas\*  
\$2500 tax credit

## What's the same?

### All three....

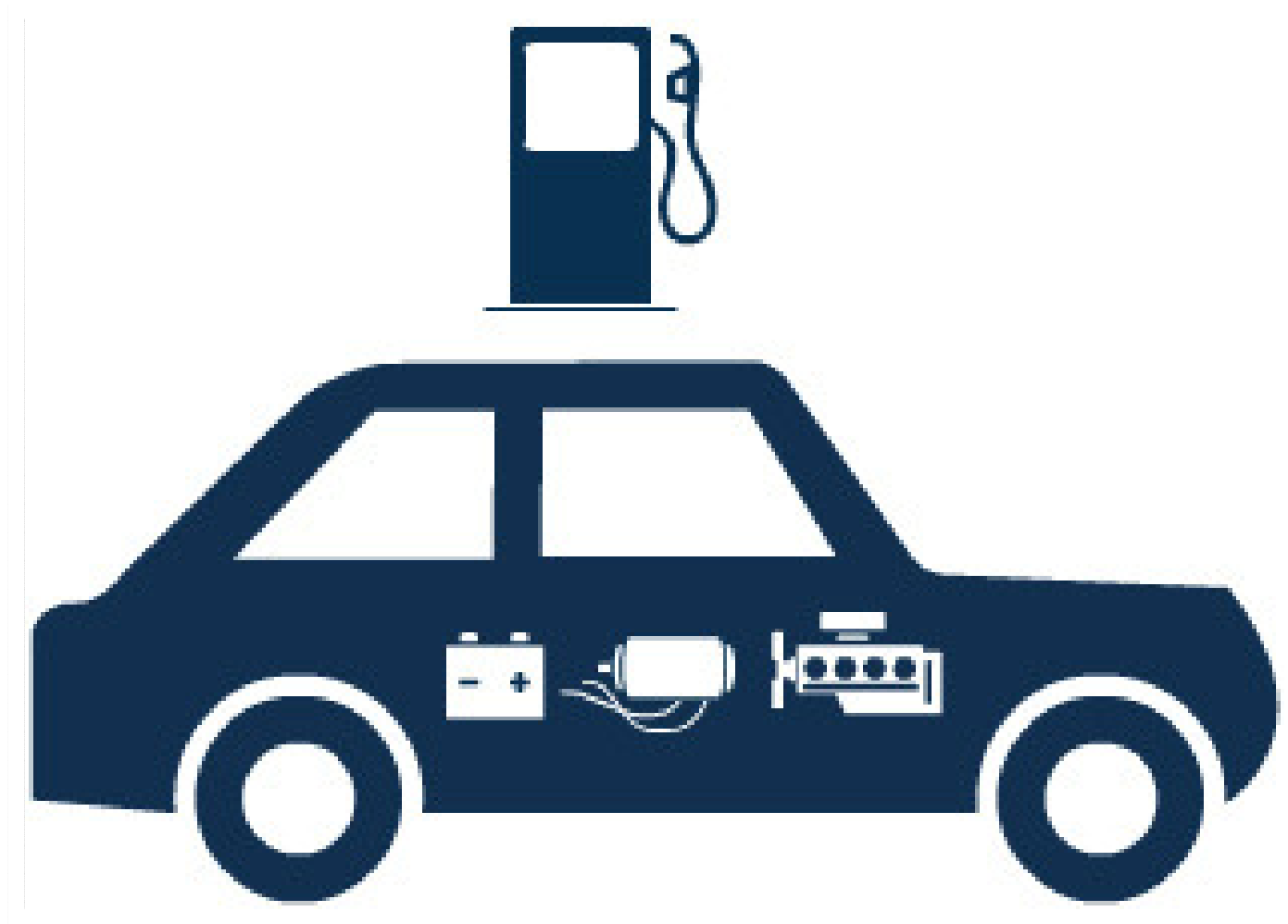
have lower emissions/idling  
provide for better fuel economy  
charge via regenerative braking  
can drive in HOV lanes (some states)  
are higher priced than non-hybrid \*\*

\*Depending on driving habits

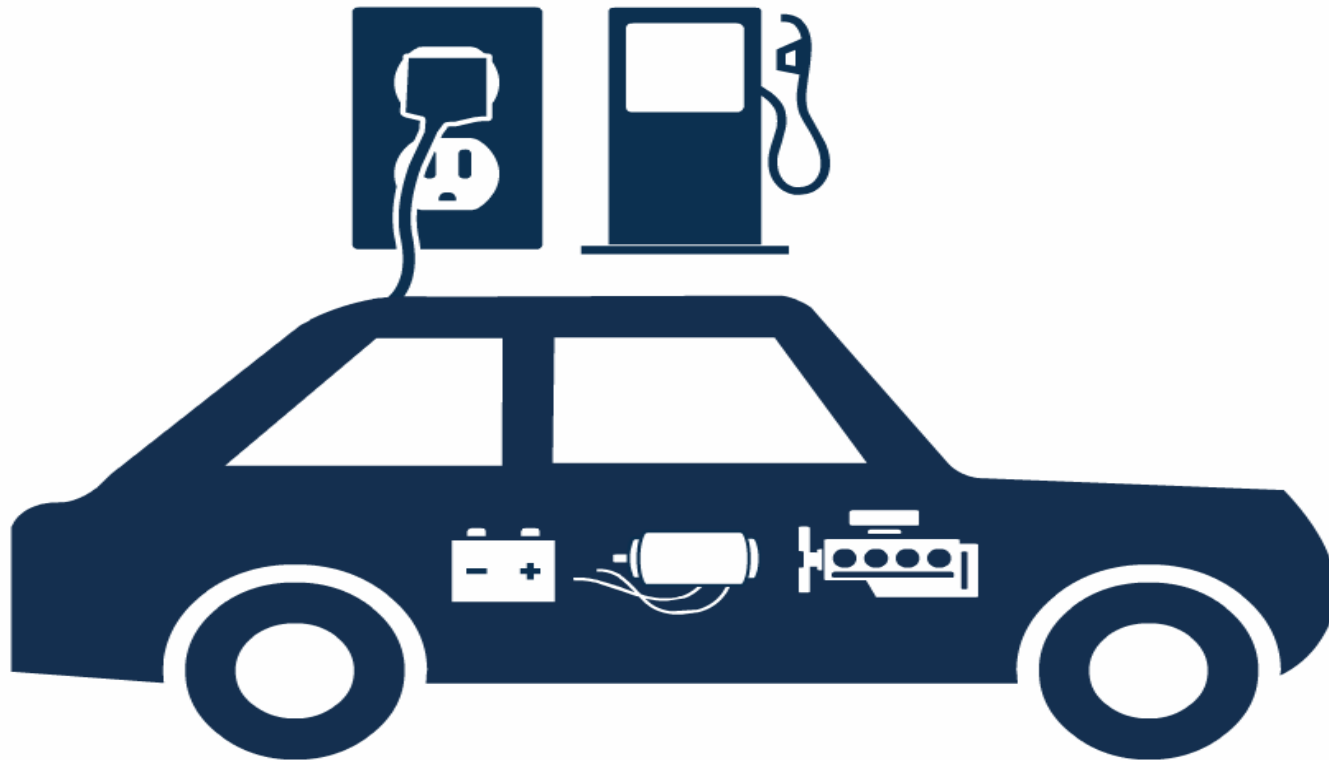
\*\* Buick and Lincoln are exceptions



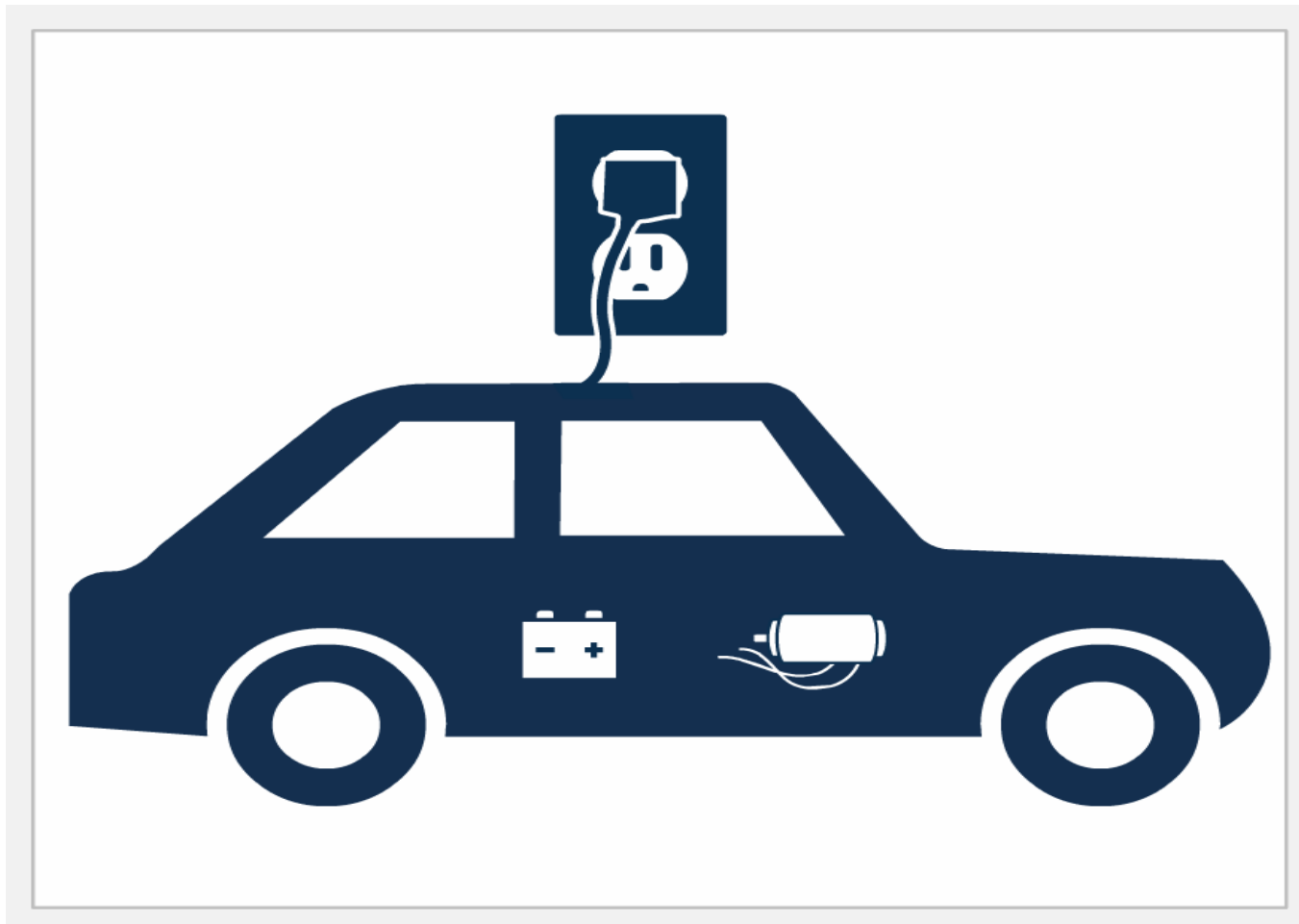
# Hybrid-electric Vehicle



# Plug-in hybrid-electric Vehicle



# Electric Vehicle





# Electric Vehicle Fueling



**Level 1 charging**



**Level 2 charging**



**Level 3 charging**









# Where to Charge?



Alternative Fuels Data Center: Alternative Fueling Station Locator - Windows Internet Explorer



http://www.afdc.energy.gov/locator/stations/#results?utf8=%E2%9C%93&location=nh&filtered=true&fuel=ELEC&private=true&planned

Edit View Favorites Tools Help

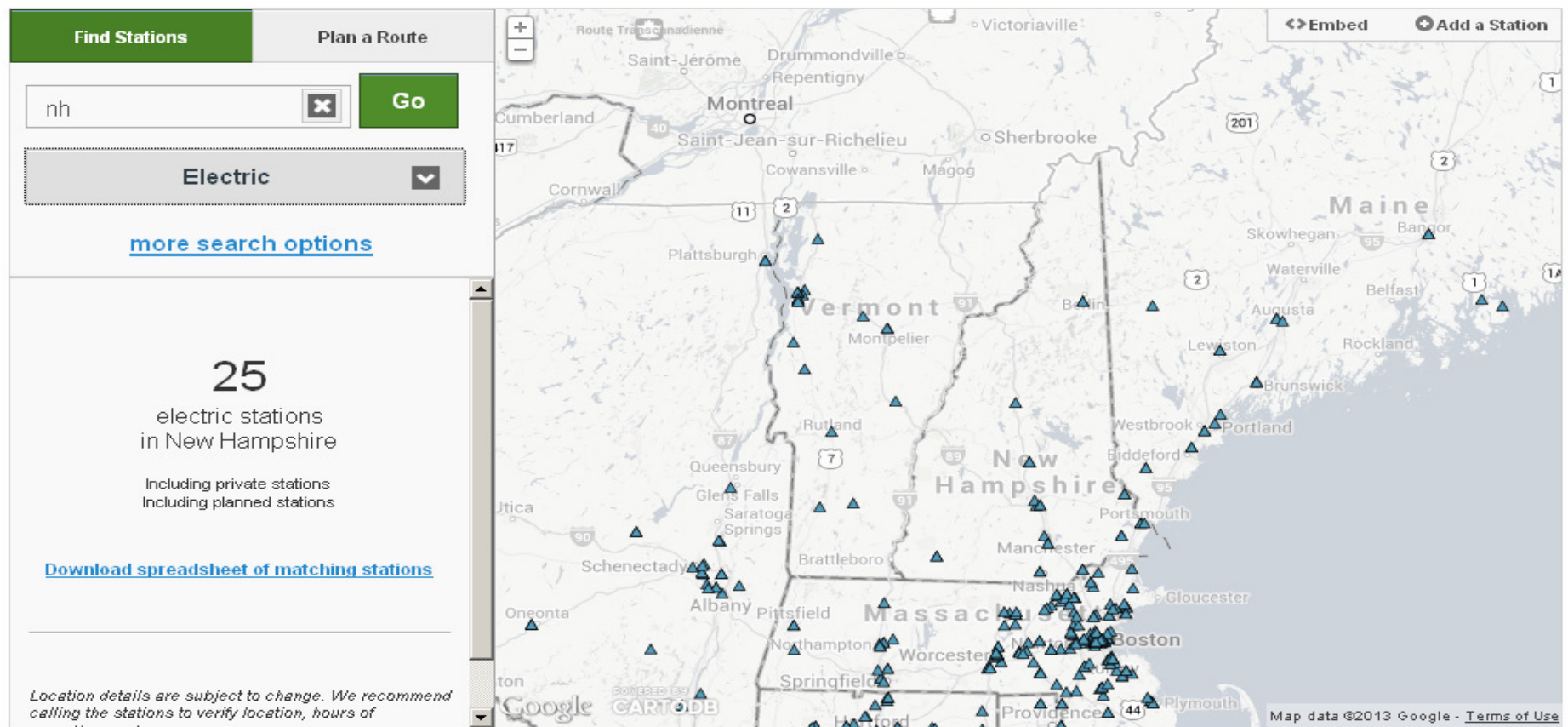
Share Browser WebEx

Comparison of Hybrid vs. N... CNG is cheaper, cleaner but... Dorset hike offers relaxing ... Auto Leasing Hits Record Hi... Tips for Buying and Servicing...

Alternative Fuels Data Center: Alternative Fueling Sta...

Page Safety Tools

Find alternative fueling stations near an address or ZIP code or along a route in the United States. Enter a state to see a station count.



[Data Download](#) [Developer Tools](#)

- “Fill-up” cost: \$3.00
- New technology, less pollution
- Lease options
- Available public charging (13 sites from Keene to Berlin)
- Tax incentives

- Range, range, range
- Price
- fueling
- Variety, utility
- Lack of information and mis-information





Northeast Electric Vehicle Network | Transportation and Climate Initiative - Windows Internet Explorer

http://www.transportationandclimate.org/content/northeast-electric-vehicle-network

2014 ford focus EV range


File Edit View Favorites Tools Help

Share Browser WebEx

Favorites Primary Care-Family Medicine HOME Transitions to Alternative Veh... SR GM CEO promises 200-mile e... Dairy Finds Way to Let Cows... The All-Electric Car You Nev...

EERE: Clean Cities Home Page Northeast Electric Vehicle...

STAFF LOGIN



**TRANSPORTATION & CLIMATE INITIATIVE**  
Of the Northeast and Mid-Atlantic States

HOME ABOUT OUR WORK NEWS CONTACT US

**Clean Vehicles and Fuels**

- Work Group Overview
- ▶ **Northeast Electric Vehicle Network**
- Electric Vehicle Action Plan
- Electric Vehicle Supporters
- Electric Vehicle Documents
- Exploring Natural Gas Opportunities

**Sustainable Communities**

- Workgroup Overview
- Measuring Sustainability

**Information and Communication Technology**

- Workgroup Overview
- Electric Vehicle Apps

**Freight Efficiency**

- Work Group Overview

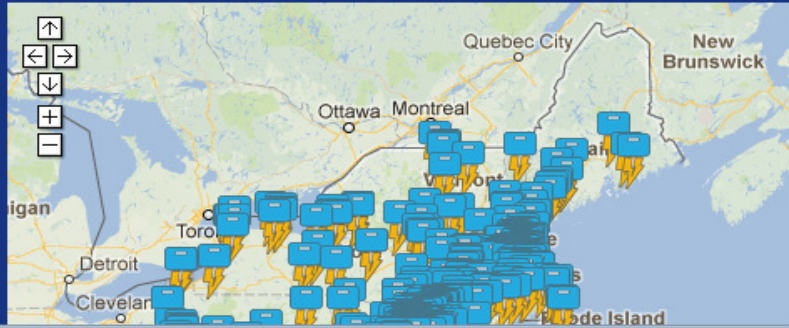
**Be Part of the Solution**

**Welcome to the Northeast Electric Vehicle Network—a project of the Transportation and Climate Initiative.**

The Network and all the resources located on this page were developed by states to make learning about, owning, and driving an electric vehicle easier.

ZipCode  State (eg: NY, MA, DC, etc.)

Apply Reset



**Regional EV Information**

- Consumers
- Employers
- Apartment & Condo

http://www.transportationandclimate.org/northeast-electric-vehicle-network-documents

Internet 100%

# Siting and Design Guidelines for EVSE

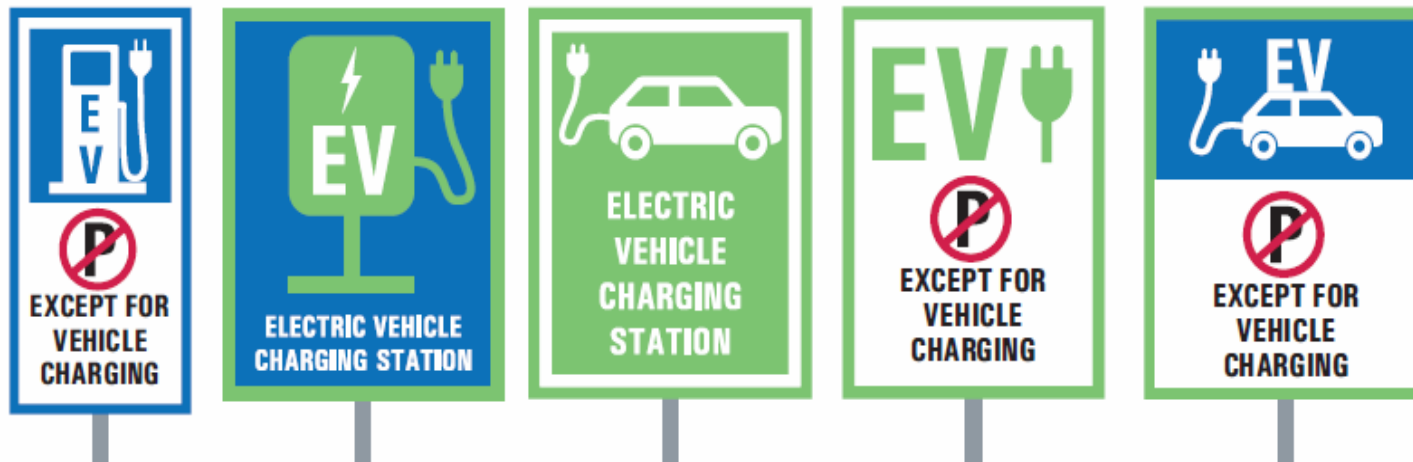


FIGURE 14.

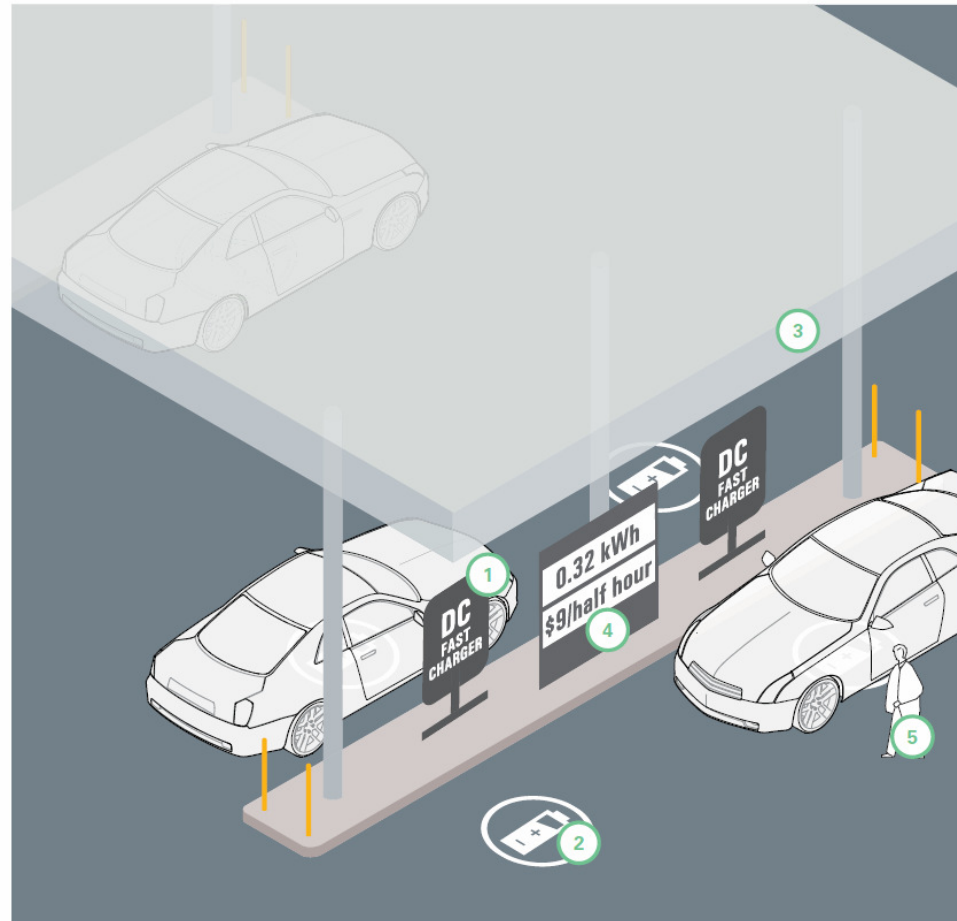
A COMBINATION OF SYMBOL AND TEXT IS RECOMMENDED. THE TERM "CHARGING" SHOULD BE USED TO ENSURE HYBRID VEHICLES DO NOT USE THE SPACES FOR PARKING. THE SELECTED ELECTRIC VEHICLE SYMBOL SHOULD BE LARGER AND MORE PRONOUNCED THAN THE NO-PARKING SYMBOL TO AVOID CONFUSING MESSAGES.



# Siting and Design Guidelines



- **Service Station**
  - Appropriate for DC fast charging
  - Clear markings are essential to distinguish from gasoline pumps. Important not to block other EVSE or pumps
  - Protect DC fast chargers from the elements
  - Establish an appropriate charge-for-charge model
  - Customer amenities should be provided



# Planning and Policy Tools

Diverse partnerships can strengthen the EV planning process.

- Private companies, utilities, municipalities and MPOs, and others should be involved to help a community become EV-ready.

Procurement policies can also be used to require the government to purchase EVs, or consider a purchase as part of any procurement process.

## •EV Partnerships include:

•*Maryland Electric Vehicle Infrastructure Council*

•*Project Get Ready Rhode Island*

•*Connecticut Electric Vehicle Infrastructure Council*

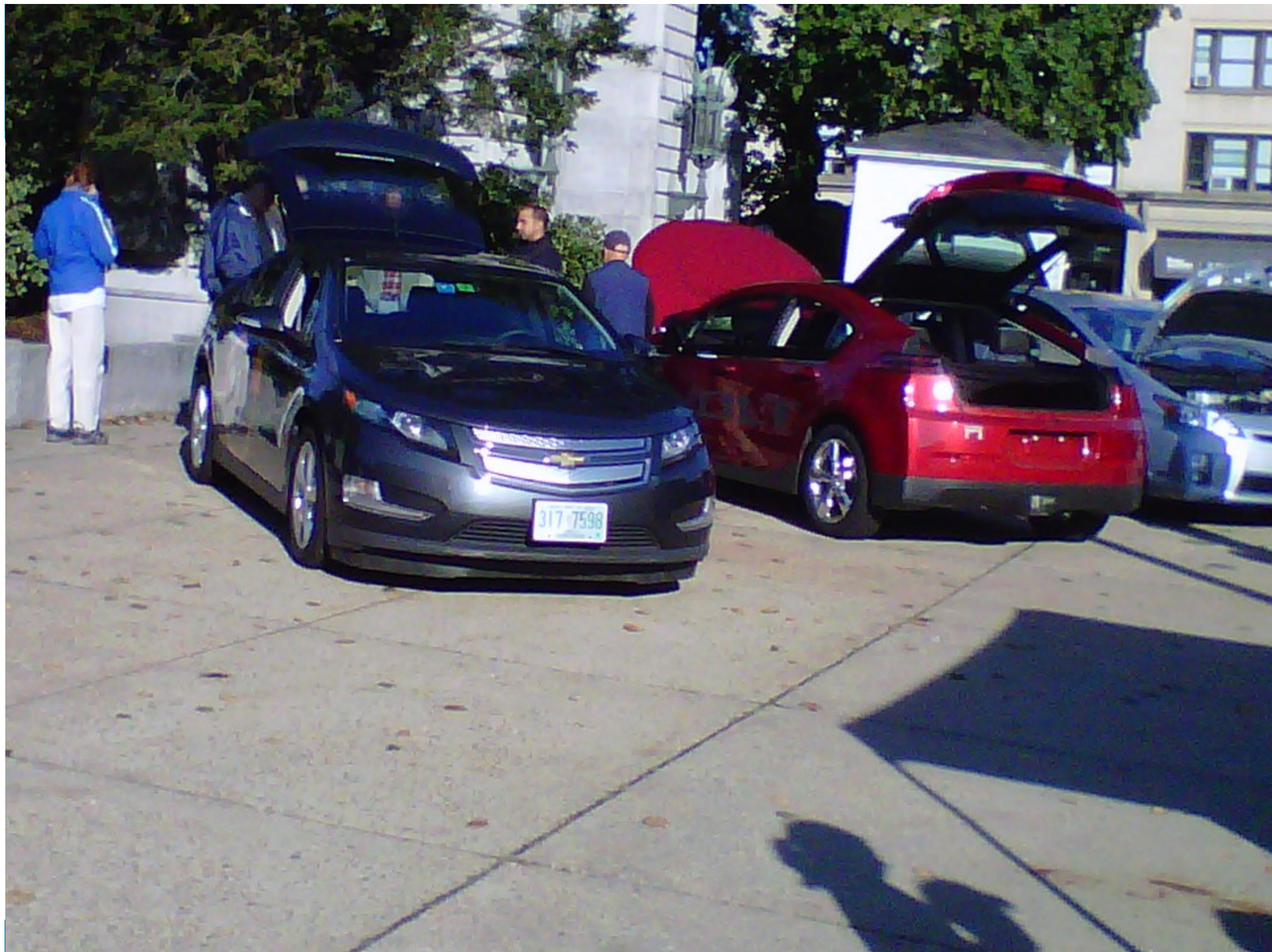


## Tax Incentives

**The following incentives are now effective through December 31, 2013:**

- 30% tax credit on infrastructure installation (up to \$30,000)
- \$2,500 tax credit for plug-in HEVs\*
- \$7,500 tax credit for EVs\*

\*May be extended beyond 12/31/13





Granite State Clean Cities Coalition:

[www.granitestatecleancities.nh.gov/](http://www.granitestatecleancities.nh.gov/)

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NH Department of Environmental Services:

<http://des.nh.gov/>

Fuel Economy: [www.fueleconomy.gov](http://www.fueleconomy.gov)

Electric Vehicle Documents: [www.northeastEVs.org](http://www.northeastEVs.org)

Alternative Fuel Station Locator:

[www.afdc.energy.gov/locator/stations/](http://www.afdc.energy.gov/locator/stations/)

Alternative Fuels Data Center: [www.afdc.energy.gov/](http://www.afdc.energy.gov/)